REMARKS

Claims 1-51 are pending in this application, with claims 1, 10, 21, 32 and 38 being independent. Claims 1, 7, 10, 18, 21, 29, 32, 35, 38 and 44 have been amended. Claims 47-51 have been added. Favorable reconsideration and allowance are respectfully requested.

The Office Action objects to claims 7, 18, 29, 35 and 44 under 35 U.S.C. § 112, second paragraph, as indefinite, contending specifically that the use of the phrase "and/or" makes those claims unclear. Without conceding the propriety of the rejection, Applicants have amended those claims to delete the "and/or" phraseology, and respectfully request the Examiner to remove the Section 112 rejection.

Claims 1-4, 8-11, 13-15, 19-22, 24-26, 30-32, 36-41 and 45-46 were rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,112,015 to Planas et al; claims 5-7, 16-18, 27-29, 33-35 and 42-44 rejected under 35 U.S.C. § 103(a) as being obvious from Planas in view of U.S. Patent No. 6,597,377 B1 to MacPhail; and claims 12 and 23 were rejected under Section 103(a) as being obvious from Planas in view of U.S. Patent No. 6,581, 109 B1 to Fields et al. These rejections are respectfully traversed.

As recited in independent claim 1, the present invention relates to a method of presenting to a user a visual representation of a frame laid out in a matrix of blocks, with each block laid in a matrix of pins, the frame being resident at a central office of a telecommunications system. The method includes the steps of accessing a database of data as to a current condition of the frame, the data including data indicating which pins in the frame are currently in use and which pins in the frame are available for use. The method also includes the step of displaying,

based on the accessed data, a graphical representation of the frame. The graphical representation includes a visual indication of the current condition of the frame, including a visual indication of a plurality of pins currently in use and a plurality of pins available for use. The method further includes allowing a user to interact with the graphical representation to effect a mapping between available pins on the frame and telecommunications lines leading to and from the frame.

Independent claims 10 and 32 are directed to computer executable software code for host and client computers, respectively, that perform a method having the same features as those recited in claim 1. Independent claim 21 is directed to a server computer having similar features to those recited in claim 1, as well as additional features. Independent claim 38 is similar to claim 1, but is drafted in means-plus-function form.

To provide services to their customers, telecommunications companies maintain a system of wire and fiberoptic land lines connecting the central offices (CO), at which switching cards are located, with their subscribers. The path between a subscriber's address and a CO includes several stages, such as a drop connecting the address to a serving terminal; a distribution connecting the serving terminal to a cross-box; and a feeder connecting the cross-box with the CO. The feeder enters the CO by connecting to a pin on a frame, which is connected to a port on a switching card by a jumper, either directly or through one or more intermediate pins and jumpers. The frame itself is a physical structure located within the CO, laid out in a matrix of blocks, each of which includes a matrix of pins.

The mapping of ports to pins and pins to feeders is a relatively complex undertaking, and is performed by specially trained personnel, assisted by specialized software

running on a mainframe computer. Because such existing systems are text-based, however, they do not offer the user the ability to readily visualize the frame in relation to the incoming and outgoing lines. In particular, existing systems fail to convey readily to the personnel a visual indication of which pins on the frame are in use, and which pins are available.

The present invention overcomes this drawback by displaying a graphical representation of the frame, which includes a visual indication of the current condition of the frame. The visual representation is based on accessed data, which includes data indicating which pins in the frame are currently in use, and which pins are available for use. And, in accordance with salient aspects of the present invention, the visual representation includes a visual indication of in-use pins and available pins, and the user is allowed to interface with the graphical representation to effect a mapping between available pins and telecommunications lines.

Planas relates to a method for graphically depicting state and status information for network objects that form a part of a telecommunications network. In Planas, a graphical representation of a network is displayed in which a basic icon is used to depict each network object. Planas teaches that there are three basic types of network objects: (1) network elements or nodes, (2) links, and (3) individual cards in a piece of shelf-based equipment. The icons for these objects are shown in Fig. 29 (the node icon), Fig. 2b (the link Icon) and 2c (the card icon), and the graphical representation of network using these icons is shown in Fig. 1a.

As can be readily seen, the graphical representations that are the subject of Planas have nothing whatsoever to do with a frame having pins, let alone with visually representing pins that are currently in use and pins that are available. To the contrary, the graphical representations

in Planas are much more high-level. They show links that connect nodes to other components (such as workstation terminal 40 in Fig. 4a) and to other nodes, thereby indicating that the two elements are in communication. And they convey certain information as to the nature of the links (such as the icon superimposed of link 42, indicating that it is a CNET link). But they do not even come close to representing a pin-level of detail.

The present invention, in stark contrast, provides graphical representations at much lower, more physical level, namely representations that provide a visual indication of the current condition of a frame, and specifically of a plurality of pins on a frame that are currently in use and a plurality of pins available for use. No information of this type displayed by the systems of Planas. Further still, the graphical representation of the present invention may be interacted with, to effect a mapping between available pins on the frame and telecommunications lines. This feature, too, is completely absent from Planas.

Accordingly, Applicants respectfully submit that independent claims 1, 10, 21, 32 and 38 are plainly allowable over Planas, and respectfully request the Examiner to remove the Section 102 rejections.

The other applied references do not correct the deficiencies of Planas. Mac Phail was simply cited for its teachings regarding Web links objects, and Fields for its teaching regarding a Java servlet. The Office Action does not even contend that these references show a visual representation that includes a visual indication of pins in use and available pins, that may be interacted with to map available pins to telecommunications lines. And plainly, they do not.

The remaining claims all depend from one of independent Claims 1, 10, 21, 32 and 38, and each partakes in the novelty and non-obviousness of its respective base claims. The dependent claims also recite additional patentable features of the present invention, and individual reconsideration of each is respectfully requested.

CONCLUSION

In view of the foregoing amendments and remarks, Applicants respectfully request favorable reconsideration and early passage to issue of the present application.

If there are any fees due in connection with the filing of this response, please charge the fees to our Deposit Account No. 07-2347. If an extension of time under 37 C.F.R. § 1.136 not accounted for above is required, such an extension is requested and the fee should also be charged to our Deposit Account.

Respectfully submitted,

Joel Wall
Reg. No. 25,648

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c/o Christian R. Andersen
VERIZON CORPORATE SERVICES GROUP INC.
HQE03H14
600 Hidden Ridge Drive
Irving, TX 75038
(972) 718 - 4800